Direct Testimony of Carol R. Wasserman

Q. Please state your name and business address.

A. Carol R. Wasserman, ESS Group, Inc., 888 Worcester Street, Wellesley, MA 02482

Q. Please summarize your educational background.

A. I hold a Bachelor of Science degree in biochemistry from the State University of New York at Stony Brook, a JD from the New England School of Law, a Master of Science degree in marine biology from Northeastern University, and a Master's degree in Public Administration from the John F. Kennedy School of Government, Harvard University.

Q. Ms. Wasserman, do you have a particular area of specialization?

A. Yes, I specialize in environmental regulatory analysis, strategic planning, and compliance.

Q. For whom are you appearing in this proceeding?

A. The City of Fall River, MA.

Q. When did your work for the City first commence?

A. Mid-June 2004.

Q. Ms. Wasserman, please summarize the conclusions that you reached following your evaluation of the KeySpan and Weaver's Cove proposals.

A. After extensive review of the information contained in the Draft and Final Environmental Impact Statements for the Weaver's Cove application, and the additional publicly available materials in the docket in that proceeding and materials submitted in related state and federal permitting proceedings or other reviews, it is my conclusion that there simply is inadequate information on which to reach a sound judgment on the environmental impacts of the proposed LNG terminal. Neither the Commission nor the public have adequate information to allow the "hard look" at environmental impacts the Commission is obligated to take by the National Environmental Policy Act, and the information is entirely too tentative and speculative to enable the public to be informed of the likely consequences and to provide meaningful comments.

I have also concluded that the Commission is deferring truly significant questions about environmental impacts, alternatives, and mitigation to the United States Army Corps of Engineers in its prospective Section 10/404 permitting process. These issues are, first and foremost, critical to any informed conclusions about the constructability of this project and whether or not it is consistent with the public interest.

Finally, I have concluded that the Commission is not paying sufficient attention to its obligations under NEPA to support informed decision-making by state and federal agencies responsible for independent permitting authorization. The gaps being left for the Corps and other agencies to fill could require the Corps to develop a Supplemental Environmental Impact Statement prior to reaching its

own permit decisions. NEPA is intended to coordinate and streamline all of these processes and I do not believe that intent is being realized. This abbreviated effort could, in fact, prolong the permitting and approval process for a significant period of time.

Q. These are essentially procedural objections. Do you have substantive objections as well?

A. Procedural objections are especially important under NEPA, because NEPA is at heart a procedural, "action-forcing" statute. However, it is important to add that based on the information that is available, the environmental consequences of the proposed actions appear to be very substantial.

Q. Could you summarize for us what you believe the concerns are with respect to the Weaver's Cove proposal?

A. Yes, I can. My specific concerns flow from the simple fact that essential project elements are simply being deferred or postponed from any consideration in this process. This project is comprised, at its heart, of two fundamental components: the creation of a "highway" if you will within the Taunton River to allow LNG tanker ships to traverse the River to the storage terminal and pipeline interconnection, and the disposal of the dredged sediments taken from the River to create the "highway." Neither of these two elements appears to have been critically examined and much of the significant decision-making has been based on inadequate data and kept from the public.

My specific concerns are: 1) the impact of the extensive dredging that would be required, possibly exceeding 3 million cubic yards of material; 2) the impact of the planned operation of dredging; 3) the impact of the planned disposal of dredged sediments onsite; and 4) the effect of construction and related activities onsite on the ongoing 21E cleanup activities at the site.

Q. In your capacity as a lawyer and expert on state and federal regulatory processes, have you reached any conclusions about how the FERC should relate its activities under section 3 of the Natural Gas Act to the role of state regulatory processes and of federal regulatory processes other than those carried out by the FERC?

A. The relationship between this Commission's responsibilities and authorities under section 3 of the Natural Gas Act, on the one hand, and the state's responsibilities and authorities that relate to these proposed LNG terminals, on the other, is complex, and needs to be discussed authority by authority. However, it is very important to note at the beginning that in several instances the states are acting under delegated federal authorities, rather than or in addition to under purely state authorities. Where this is the case, any conflict that the Commission might perceive to exist between the exercise of its section 3 authorities and the states' exercise of their delegated federal authorities cannot be resolved as a matter of federal preemption, but rather must be addressed as a case of possibly conflicting federal authorities. The same is also true in the case where there are actual or potential conflicts between different federal agencies, such as between this Commission and the Army Corps of Engineers. Even where the state is acting

purely on the basis of its own authorities, where preemption is appropriate to consider, the Commission should carefully consider whether preemption is in fact appropriate. Even where it is appropriate, the Commission should ensure that the concerns revealed in the state proceeding is appropriately and fully considered in the exercise of the Commission's own authority. Surely this Commission should recognize that a State's public policies incorporated in its laws are highly relevant considerations in the determination of whether a proposal directly affecting that State is inconsistent with the public interest.

Recognition by the Commission of state public policies goes much further than a generalized statement of intergovernmental comity in this proceeding. In the case of Weaver's Cove, the applicant initiated and volunteered to participate in a federal-state process, under the Commonwealth of Massachusetts' Environmental Policy Act, intended to promote not merely coordination, but recognition of substantive environmental impact concerns and public participation opportunities. That agreement, entered into in August 2003, should be afforded the significance it deserves and stands as an express acknowledgment of the overall importance of state environmental policy and substantive concerns in this proceeding.

Q. You mentioned that you have concerns with respect to the large amount of dredging that would be involved with the Weaver's Cove project. What are those concerns?

A. I have many distinct types of concerns with the proposed dredging, starting with the impact of Weaver's Cove's plans for conducting continuous dredging,

processing, and disposal for three years. While the proposed FEIS does acknowledge some of the grave concerns raised by this proposed schedule, the limited recommendation concerning prohibition of in-water construction activity in a portion of the Taunton River between January 15 – May 31st is, to say the least, inadequate to address these concerns.

I am concerned with the impact of Weaver's Cove's plans to dispose of the dredged sediments upland on an existing active State Superfund disposal site; I am concerned with the vagueness of the plans for how the dredging is to be carried out in-water and the lack of specificity concerning management of the dredged sediments literally on top of an active hazardous waste disposal site; I am concerned with this Commission's apparent willingness to attempt to undercut the States' role under the Coastal Zone Management Act; and I am concerned with the Commission's apparent willingness to attempt to displace the Army Corps of Engineers' role under Section 10 of the Rivers and Harbors Act and the Corps' and EPA's role under section 404 of the Clean Water Act.

Q Do you believe that the impact of the dredging should be considered to be unacceptable?

A. Yes, I do and I am not alone in my concerns. The National Marine Fisheries Service (NOAA Fisheries), which is an agency within the United States Department of Commerce, has informed this Commission that "At this time, NOAA Fisheries believes that the proposed project will result in substantial and unacceptable impacts on aquatic resources of national importance (ARNI)."

Letter from Patricia A. Kurkul, Regional Administrator, NOAA Fisheries, to FERC, September 17, 2004 [200409175011] (hereinafter referred to as "NOAA Fisheries Comments." The NOAA Fisheries Comments note that the Taunton River/Mount Hope Bay Complex has been designated as "essential fish habitat" for 14 federally managed species, including the winter flounder. The proposed project area serves as an important spawning and juvenile development habitat for the winter flounder. NOAA Fisheries believes that the suspended sediments resulting from the planned dredging (and, perhaps, from other planned construction activities) "will have substantial and unacceptable impacts on winter flounder spawning habitats."

Based on a recent telephone conversation concerning the FEIS [Christopher Boelke, Habitat Conservation Division; 5/27/05] the Commission recommendations, while addressing some of NOAA Fisheries' comments, still fall far short of being "acceptable."

I also must point out that there are grave concerns about the impacts of the dredging on the progress that has been made to restore this ecosystem and other anadromous fish populations. The United States Environmental Protection Agency, Region I (EPA) stated to the Commission that, "Project impacts to the resources and habitats of Mount Hope Bay and Taunton River are significant, avoidable, and unsatisfactory" and rated the adequacy of the DEIS as "Environmentally Unsatisfactory-Inadequate Information (EU-3)." EPA also stated that if the lack of sufficient information persisted, the matter of the

proposed project "would be a candidate for referral to the Council on Environmental Quality for resolution." (Letter from Robert W. Varney, Regional Administrator, EPA, to FERC, September 20, 2004 [200409205070] (hereinafter referred to as "EPA Comments"). In my judgment, the lack of sufficient information has persisted.

The EPA Comments are also worthy of note in that they call out the potential economic impacts and losses, qualitatively and quantitatively, that have not been considered by the Commission with regard to this resource. The EPA Comments inform the Commission that the Taunton River is home to the Commonwealth of Massachusetts' strongest anadromous fish runs, which have dramatically declined through time and remain at historically low levels, and that it is one of the few sources of fish that are transplanted to other rivers in hopes of restoring other anadromous fish runs in other systems. The impacts on this resource may well have ever-expanding and cumulative impacts upon other populations and communities that the Commission has not considered.

The EPA Comments also discuss the millions of dollars, through a variety of public and private funding mechanisms, that have been invested into this ecosystem for restoration of these resources. This includes the estimated $ 120 million dollars of investment by the City of Fall River, the approximately $ 100 million dollars that will need to be invested to retrofit the Brayton Point Power Station, and the $15 million dollars invested through federal and state funding of the Narragansett Bay Estuary programs. EPA joins with NOAA Fisheries in its

determination that the effects upon this ecosystem and particularly on winter flounder spawning habitats are under-predicted and will be substantial and unacceptable.

Q. Does Weaver's Cove concede the adverse impact on winter flounder?

A. No. Weaver's Cove points to modeling results it has commissioned suggesting that the impacts, while adverse, will be less substantial than concluded by NOAA Fisheries. But the NOAA Fisheries Comments take issue with a number of the assumptions incorporated into the modeling performed on behalf of Weaver's Cove. For example, as described in the DEIS, Weaver's Cove used a spawning depth input of under 5 meters in the "SSFATE" model, while NOAA Fisheries believes that a depth of 8 meters should be used for modeling purposes. As stated in the NOAA Fisheries Comments, "By utilizing greater depths that account for this variability of winter flounder spawning depths, the aerial extent of EFH [that is, essential fish habitat] impacts will increase and thus indicate greater impacts on EFH." It appears that Weaver's Cove might have conceded this point, because it has begun using 8 meters as an input for modeling submitted to the Army Corps of Engineers and the FEIS acknowledges this change. However, other, equally significant concerns about the validity of the modeling results have been ignored by the Commission and dismissed categorically as "overly conservative." NOAA Fisheries anticipates renewing these concerns both in its comments on the FEIS and, if necessary, through the Corps of Engineers permitting process. [5/27/05 telephone conversation referenced supra.]

EPA similarly concludes the model under-predicts the potential environmental impacts of the dredging as proposed. EPA found the model employed assumptions that were not sufficiently conservative, resulting in an underestimation of impact to winter flounder spawning habitat. It also found that the model runs were limited to "a fairly narrow range of Taunton River flow conditions, which are critical to calculating how widely dispersed sediment is deposited and the magnitude of impact to winter flounder spawning habitat." These concerns remained unaddressed in the FEIS.

EPA also expressed concerns, which have remain unaddressed in the FEIS, that water quality criteria exceedances will occur for several heavy metals in the water column. EPA concludes that the "ecological significance of these potential water quality impacts remains unknown." These exceedances of federal water quality criteria were concurred in by Weaver's Cove, but have been dismissed as "insignificant" in the proposed FEIS, as were similar concerns raised by the Secretary of the Massachusetts Executive Office of Environmental Affairs [December 10, 2004 MEPA Certificate.]

Q. Could you give us another example of where there appears to be a factual dispute over the appropriate inputs to the model?

A. Yes, I can. EPA believes that the model was not run under a sufficient range of flow conditions to accurately assess the impacts that could occur throughout the course of the dredging operation. EPA has correctly noted that dilution and dispersion are inversely related, such that higher river flows will result in greater

areal dispersion of material resulting in lower quantities of deposition and lower river flows will result in less areal dispersion and greater deposition. While the greatest quantity of impact to winter flounder spawning would be an intermediate condition, this cannot be predicted unless a number of conditions have been modeled. The model never incorporated these conditions and the FEIS continues to dismiss the comment.

Another example of a dispute over the appropriate modeling inputs is NOAA Fisheries' recommendation that the assumed loss rate of dredged materials from the dredging bucket should be 2%, while Weaver's Cove used an assumption of 0.66% -- which is two-thirds less. This was described in the DEIS, but stands unchanged in the FEIS.

Q. On what basis did Weaver's Cove adopt the 2% figure?

A. Weaver's Cove based its assumption on experience with a recent dredging project in Boston Harbor, which for several reasons cannot be considered analogous. Exclusively on this point, the project differed substantially from the proposed project because it involved a significant portion of "improvement" dredging, as opposed to "maintenance" dredging. In general, "improvement" sediments are relatively firm, consolidated materials that are far less likely to contribute to suspended sediment loading of the waterway, than is the case with "maintenance" materials. The Boston Harbor experience relied on by Weaver's Cove is therefore irrelevant. While I believe that in fact Weaver's Cove has characterized a higher proportion of its dredging as "maintenance" than is in fact maintenance dredging,

Weaver's Cove has studied the actual sediment sizes in the project area and found that "much of the sediment proposed to be dredged is commonly referred to as 'maintenance silts' based on a physical characterization of particle sizes (very fine grained – native sediments that have never been dredged tend to be coarser grain materials)." Weaver's Cove Energy, LLC & Mill River Pipeline, LLC's Responses To Comments Filed with FERC & Made at the Commission's Public Scoping Meetings regarding the Draft Environmental Impact Statement under CP04-36 et al., [Weaver's Cove Response to Comments] at p. 97. I disagree that this information is relevant to the classification of the dredging as either maintenance or improvement, but it is highly relevant to and strong support for NOAA Fisheries' use of a 2% loss rate rather than the 0.66% loss rate used by Weaver's Cove in its modeling. The very fine-grained material that Weaver's Cove's own study clearly shows is present is just the sort of material that is the most likely to be lost from the dredging bucket and to contribute to the suspended sediment loading of a waterway.

Q. The impacts you have described so far have been characterized by Weaver's Cove as temporary. Is that an accurate characterization?

A. As noted by NOAA Fisheries, the impacts described so far "will preclude the use of the area for successful winter flounder spawning through potentially four spawning seasons. Due to the importance of this area as a winter flounder spawning area, NOAA Fisheries views these impacts, while 'temporary,' to be substantial and unacceptable." I believe you must also consider whether the use

of the word "temporary" is a semantic distinction, with permanent effects. The impacts on each season may be temporary, but the possibility that the duration over four seasons will result in permanent impacts that cannot be mitigated, needs to be considered.

In addition, there will be a permanent loss of 11 acres of winter flounder spawning and juvenile development habitat resulting from the expansion of the turning basin. This permanent loss obviously is not "temporary," and its significance is heightened by the substantial and long-lasting "temporary" effects.

Q. Are there are other adverse effects associated with the dredging that would be necessary in order to allow the construction of the Weaver's Cove LNG terminal to go forward, putting aside for the time being any adverse effects associated with the disposal of the dredged sediments?

A. Yes, there are. There are additional impacts on fishery resources. For example, the suspended solids resulting from the substantial dredging required for the Weaver's Cove project would have a negative effect on anadromous fishery resources, including the American shad, blueback herring, alewife, and rainbow smelt, all of which have been designated as aquatic resources of national importance, pursuant to § 906(e)(1) of the Water Resources Development Act of 1986. As pointed out by NOAA Fisheries, there is good reason to believe that rainbow smelt avoid suspended sediment when concentrations are in excess of 20 mg/l. Weaver's Cove asserts that the concentration will not exceed 600 mg/l – 30 times higher -- which it believes is the minimum effect threshold; but I believe

that if the appropriate parameters were included in the SSFATE model it would show that even this high level would be exceeded and that there would be a significantly adverse effect on the migrations of these fish species. Since these fish serve as prey for a number of federally managed species, they are considered a component of essential fish habitat.

Another example of a significant adverse effect on fishery resources is the impact on shellfish habitat. Here, there would be the direct effect of dredging, removing and destroying the bottom-dwelling shellfish, such as the Northern quahog, American oyster, and soft-shelled clams. Approximately 84 acres of quahog habitat are expected to be permanently affected (as a result of the "temporary" dredging, coupled with the effects of increased ship traffic in the area creating consistent turbidity). Even more potentially damaging is what we do not know about other communities that simply have not been examined. The FEIS acknowledges that no specific information has been collected concerning the conditions of benthic communities within the area affected by the dredging outside of the three identified shellfish communities. A further data inadequacy is that consideration has been limited to the impacts upon the Northern quahog population, from which all other conclusions have been extrapolated without specific data. Finally, while conclusions have been proffered about re-population following cessation of dredging, the "opportunistic" communities that may re-populate are unknown and the effects upon the shellfish resources identified, as well as higher prey species, remains unknown.

Q. Before leaving the topic of effects on fishery resources, could you address whether there are mitigations that would be possible?

A. As a theoretical matter, mitigations are possible. However, the mitigations called for by NOAA Fisheries would require such a drastic alteration in the proposed dredging schedule that it would be surprising indeed that the project could go forward with these accommodations.

Q. Please elaborate.

A. NOAA Fisheries calls for no dredging to be performed between January 15 and May 31 of each year, in order to avoid the "substantial and unacceptable impacts" on winter flounder essential fish habitat. Further, in order to avoid interference with upstream spawning migrations of anadromous fishery resources, NOAA Fisheries calls for no "in-water silt producing activity" (which includes dredging) between March 1 and July 31 of each year. In addition, it calls for unspecified "protections" between June 15 and October 31 in order to protect downstream migrations of anadromous fishery resources. At a minimum, then, NOAA Fisheries is calling for the suspension of dredging between January 15 and July 31 of each year, possibly extending to October 31 of each year, a recommendation joined in by EPA. In other words, somewhere between 6½ and 9½ months would be "off the table" for dredging, substantially extending the 3-year dredging period contemplated by Weaver's Cove.

Q. Did the Final Environmental Impact Statement issued by the Commission's Staff address the impact of dredging?

A. To some extent, yes, it did. The FEIS recommends adoption of the first of the mitigations I discuss above. That is, the FEIS recommends that in-water silt producing activity not be allowed between January 15 and May 31 each year.

Q. Why did the FEIS not also recommend adoption of the other timing mitigation recommendations urged by NOAA?

A. The FEIS concluded that the effects upon the project schedule, notwithstanding the delays interposed by the Brightman Street Bridge demolition scheduled for 2010, would be too significant. The FEIS determined that the more limited recommendation would be sufficient.

Q. The effects you have discussed so far all relate to the effect of suspended solids in the water column and as some of those suspended solids re-settle on the bottom, without taking into account the quality of the suspended materials, is that correct?

A. Yes. But it is important to point out that the quality of the dredged sediments that will become suspended and re-suspended in the water column is not high.

I must also point out that the limited sediment data was selectively compared with the NOAA Screening Quick Reference Tables (SQuiRTs). SQuiRTs is used to present screening concentrations for inorganic and organic contaminants in environmental media, including marine sediments. SQuiRTs employs a Threshold Effects Level (TEL) as an initial screening tool to eliminate

contaminants from future consideration as a probable threat, which may be exacerbated by other effects and the overall stress upon an at-risk community. This should be the first step in a sediment characterization, yet there is no TEL data provided. The FEIS provides only the three levels at which toxic effects *will* predictably occur, increasing in frequency, severity and duration. As such, the basic screen for potential threats, particularly upon already stressed communities such as winter flounder, has been eliminated from any consideration which, of course, minimizes probable effects overall.

Q. In its Response to Comments, Weaver's Cove states:

> As would be expected in industrialized waterways, trace concentrations of some polyaromatic hydrocarbons ("PAH") and metals were found .... The constituents of concern were found to be uniformly distributed throughout the proposed dredging area, *i.e.*, no 'hot spots' were detected.

Do you agree with this characterization of the quality of the sediments?

A. I do not and the FEIS contravenes this statement. Additional sediment sampling conducted by the applicant following the issuance of the DEIS discovered what is being characterized as a 'hot spot' within the turning basin. The actual location of the sample has not been disclosed nor has the data concerning the levels of contamination, but they were sufficient to conclude that the area proximate to this sample will have to be managed separately from the rest of the dredged sediments because of high contaminant levels. They were also apparently high enough for

the applicant to be concerned about the overall effect of these levels on the statistical comparisons performed.

My further conclusions about the characterization of the dredged sediments are as follows:

- The sediment data, without explanation, were evaluated separately for three different dredging segments and sampling events. This could lead to incomplete or incorrect evaluations.
- An incomplete evaluation was performed for the planned disposal of the dredged sediments upland. Not all of the constituents detected in the dredged sediments were compared to the appropriate soil standards, as set forth by the Massachusetts state Superfund program in its implementing regulations, the Massachusetts Contingency Plan. In addition, I suspect that not all of the constituents were included in the risk characterization performed, but the risk characterization itself has not been provided.
- An incomplete evaluation was performed for possible open water sediment disposal. Not all of the constituents detected in the dredged sediments were compared with the appropriate sediment benchmarks.
- The statistical methods applied to evaluating the dredged material are not explained and they are poorly documented.
- Finally, and this comment applies to the upland disposal of the dredged sediments, Weaver's Cove used incorrect background concentrations

against which to compare the dredged material contamination with soil background levels at the disposal site. Had Weaver's Cove used the correct background numbers, the levels would have exceeded significantly the standards that would support a conclusion that no significant risk is presented to human health. This issue, about which so little information has been provided, goes to the fundamental question of constructability of this project as proposed, a determination the Commission is obligated to fully consider during the NEPA process.

Q. Are there other contaminants about which this statement is not accurate?

A. Yes. More than "trace" levels of mercury have been found. Setting aside the concerns I have already articulated about the sufficiency and quality of the data, mercury contamination, as described in the FEIS, is significant. Sediment contamination was independently assessed for three separate areas or "segments"; the Federal Channel downstream of the Braga Bridge, the Federal Channel upstream of the Braga Bridge, and the turning basin. For all three segments, mercury was found at levels at or exceeding the SQuiRTs Probable Effects Levels (PELs), which are levels at which adverse effects are frequently expected, particularly on stressed communities.

Mercury is a toxic heavy metal that bioaccumulates and that has significant neurotoxic effects. The effects on the water column, and the ingestion by fish of contaminated suspended solids and the possible ingestion by humans of affected fish are matters of significant concern. I am stunned by Weaver's Cove's

seeming dismissal of mercury as a significant concern based on its presence throughout the entire dredging area:

> "Therefore, as Weaver's Cove concluded, the dredging of, and subsequent settling of, sediments will not introduce sediments containing metals (*i.e.*, mercury) into an environment with pristine sediments, and the organisms using and living in the Taunton River have adapted to life with these very sediments. Therefore, the presence of that metal in the material to be dredged is not ecologically significant or indicative of contaminated sediment."

Weaver's Cove Response to Comments at p. 102-103.

Q. Does that quotation say that the widespread contamination of the sediments with mercury means that the sediments are not contaminated? Could you explain what this means?

A. No. The statement is as silly as it sounds. The sediments are contaminated. I am not concerned that some part of the same contaminated sediments that are currently on the floor of the Taunton River and Mount Hope Bay will return to whence they came; rather, the concern is the effect that stirring these contaminated sediments up into the water column will have. And to dismiss the contaminated nature of these sediments on the ground that the contamination is widespread in the dredging area, as Weaver's Cove seems to try to do, is ridiculous.

Q. Are there other contaminants about which you have concerns?

A. Yes, there are. Again, setting aside my concerns about the adequacy of the data or the analysis, the levels of heavy metals found in all three segments are significant. These metals include arsenic, cadmium, chromium, lead, nickel, and zinc, as well as mercury and they consistently were found to exceed SQuiRTs Effects Range-Low (ERLs) concentration limits and Effects Range-Median (ERMs) concentration limits. These concentrations predict that toxic effects will occur, but will vary in frequency and severity.

I also have concerns about the concentrations of PCBs reported. PCBs, which are a suspected carcinogen and may affect liver function, are similar to mercury in that they bioaccumulate, beginning with the lowest rung of the food chain, continue to bioaccumulate through prey species and may be ingested by humans. Bioaccumulation does not stop there, as PCBs are stored in fat cells and they remain stored indefinitely. PCB concentrations in the sediments in all three segments exceeded SQuiRTs ERLs.

Q. Do you have other concerns over the impact of the dredging on water quality?

A. Yes. Let me refer to the concerns expressed by Region I of the U.S. Environmental Protection Agency. In its comments on the DEIS, it expressed concerns over the impact of the suspension of sediments contaminated with fecal coliform bacteria; concern with exacerbation of the existing water quality problems in Mount Hope Bay and the Taunton River; and concern over the

synergistic effects of the low level of dissolved oxygen in these waters together with the incremental release of copper and zinc as result of dredging and dewatering (and noting that the already low dissolved oxygen levels could be further reduced as a result of the dredging). EPA Region I Comments on the DEIS, September 20, 2004, at ADC-12 to 13.

Q. Before leaving the general issue of the impacts on fishery resources of constructing an LNG import terminal as proposed by Weaver's Cove, the Draft Environmental Impact Statement suggested that the impacts of a deepwater port for the import and regasification of LNG on fishery resources would be substantial. Is this correct?

A. The Draft Environmental Impact Statement does suggest that there would be adverse environmental impacts from an offshore project, and it is true that there would be some adverse impacts. But I think it is important to contrast the severity of the impacts to fishery resources that would accompany the dredging necessary to construct the Weaver's Cove facility, with the truly temporary and far less severe impacts that would accompany the construction of an offshore facility. The DEIS correctly points out that a pipeline would have to be constructed, leading from the offshore facility either to an existing offshore pipeline, or to an onshore pipeline. Generally, if the water is 200 feet deep or more, the pipeline can be laid on the surface of the seafloor, but where the depth is less than 200 feet it will be necessary to lay the pipeline in a shallow trench. Creating that trench will disturb in the seafloor, and can generate adverse effects similar to those

attributable to dredging. However, a critically important difference is that the adverse effects of trenching will be confined to a very small area along a line. While the aggregate area affected could be significant, the effects on any given fishery resource will almost certainly be limited. The dredging associated with the Weaver's Cove project would have a devastating impact on the winter flounder resource in part because a relatively substantial portion of the habitat conducive to winter flounder reproduction would be lost or at least severely impacted for several years, further imposing stresses on this population that may well result in permanent declines, while the adverse effects along those portions of the pipeline route from an offshore facility that would need to be buried would adversely affect only a very small portion of the resource. Of course, assessing the impacts of any specific project requires detailed consideration of the specific locations that would be affected, and consideration of the specific construction method that would be employed.

Q. Subject to the caveat that each project has to be specifically considered, are you saying that the impacts on fisheries cannot be compared on the basis of the number of gross acres affected?

A. That is correct. Impact on 1500 acres of seafloor along the route of an 11.8-mile stretch of pipeline is almost certainly far less than impact on 100 acres of essential fish habitat in the Taunton River and Mount Hope Bay. This is particularly true where the impact on any specific acreage along the route of a pipeline would last for a relatively short period of time, compared with the several years of impacts

that would accompany the dredging activities in the relatively confined areas in the Taunton River and Mount Hope Bay and the ongoing impacts imposed by operation of the facility. The tenor of the discussion of the impacts from off-shore projects contained in the DEIS for the Weaver's Cove project should be contrasted with the discussion in the recently released DEIS for the Pearl Crossing LNG Terminal project.

Q. What was the lead agency for the Pearl Crossing LNG Terminal DEIS, and when was the DEIS issued?

A. There were co-lead agencies – the Coast Guard and MARAD. The publication date was April 22, 2005.

Q. What do you mean that the "tone" of the discussion of the impacts from off-shore projects contained in that DEIS was entirely different from the tone of the discussion in the Weaver's Cove DEIS?

A. The tenor, or tone, of the discussion of off-shore facilities contained in the Weaver's Cove DEIS, and in the KeySpan DEIS as well, is very negative. By contrast, the tone of the more detailed discussion of a specific off-shore proposal contained in the Pearl Crossing LNG Terminal DEIS is quite positive. While there would be impacts from the Pearl Crossing project, including from the need to bury the pipeline to connect to the on-shore pipeline system, those impacts would generally be minor and of short duration.

Q. The Pearl Crossing project would be constructed well outside the New England area. Why is the discussion of that offshore facility relevant here?

A. The discussion of the Pearl Crossing project in the recently issued DEIS demonstrates that offshore alternatives are not far-fetched, or necessarily environmentally problematic. The discussion of offshore alternatives in the Weaver's Cove (and KeySpan) DEIS simply fails to come to grips with the reality of the offshore alternatives.

Q. With the release of the Final Environmental Impact Statement, is this still the case? Do you believe that the FERC has still failed to come to grips with the reality of the offshore alternatives?

A. I believe that the FEIS reflects an improvement over the DEIS. While the discussion of the Neptune LNG and Northeast Gateway Projects in the FEIS has improved, there are still serious shortcomings in the alternatives analysis of these projects.

Q. Can you be specific?

A. Yes. First, I would like to observe that the FEIS's discussion of the environmental impacts of these offshore projects no longer conveys the (false) impression that the impacts are likely to be more substantial than the impacts of the Weaver's Cove proposal. Indeed, as discussed above, the impacts are substantially less problematic than the impacts from the great amount of dredging that would be required within the Taunton River. As pointed out earlier,

disturbances within an estuary like the Taunton River and Mount Hope Bay are generally far more significant, acre for acre, than is the case of disturbances in the open ocean, and particularly along a long but narrow route for a pipeline. The FEIS seems to give this critical difference no recognition.

Q. Are there other examples in the FEIS where the Commission appears to ignore the significance of where the gross impacts would occur in terms of the significance of those impacts?

A. Yes. In the discussion of aquatic resources, the FEIS states: "Similar to the Weaver's Cove LNG Project, eggs and larvae of various marine species would be subject to entrainment and impingement impacts from ballasting operations ...." While ballasting operations will lead to entrainment and impingement, whether those operations are conducted at Weaver's Cove or offshore, the millions of gallons that would be drawn from the open ocean in the case of the offshore projects will have a far less significant effect that the same number of millions of gallons drawn from the Taunton River. While the gross number of eggs and larvae affected might well be similar, the ecological significance will almost certainly be far greater in the case of the Weaver's Cove project. Gross impacts simply cannot be quantified or compared in so simple a manner and it is disingenuous to attempt to do so.

Q. You have expressed concerns over the management of the dredged material, have you not?

A. Yes. Weaver's Cove's current plan is to dispose of the full volume of dredged material on the LNG terminal site itself, and I do not believe that there is sufficient information or understanding of the material or the process to conclude this would be an environmentally sound solution.

Q. Specifically, what are your concerns about on-site disposal?

A. First, the actual quantity of dredged material is uncertain. I understand the likely planning volume of dredge spoils to be about 3.1 million cubic yards, a view which is also espoused by NOAA Fisheries, EPA, and MADEP. The FEIS has revised the Commission's 1.6 million cubic yards estimate in the DEIS to 2.6 million cubic yards, which represents Weaver's Cove's estimate. The analysis should be based on the planning volume, and not on Weaver's Cove's optimistic estimate of a substantially lesser volume.

Q. Does Weaver's Cove's disposal plan accommodate the full 3+ million cubic foot planning volume?

A. The question assumes there *is* a disposal plan. There is not. The FEIS states that the site could accommodate up to 3.3 million cubic yards of dredged material, but that figure is based on Weaver's Cove's preliminary grading plans and not on any comprehensive planning effort. This issue has further significance in the context of the statement in the FEIS that Weaver's Cove has no plans for disposing of the dredged material offsite at an open water disposal location (FEIS at 4-21).

Q. Do you have other concerns about on-site disposal?

Yes, I do. As I stated earlier, there are several notable errors and data gaps in the sediment analyses performed. In order to characterize the impacts of this material, background concentrations appropriate for comparison with sediment data must be used. Weaver's Cove employed incorrect background concentrations in comparing sediment data with soil background levels. (MADEP Technical Update: Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil; 05/23/2002).

A review of Table 4.2.2-6 set forth in the FEIS is illustrative. This Table compares constituent concentrations with MADEP –defined background concentrations for soil containing fill. These background values are for soil with fill material demonstrated to contain coal ash, coal, or wood ash. The description of Site soil in the FEIS demonstrates that these are not the appropriate background values to apply. Rather, the "natural soil" background levels, or site-specific background levels, should be used. The maximum concentration of the following contaminants in the sediment samples presented in the Table exceed the appropriate background levels: 2-methylnapthalene, acenapthylene, benzo(a)anthracene, benozo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, napthalene, pyrene, arsenic, barium, beryllium, chromium, copper, lead, mercury, nickel, selenium, and silver.

At a minimum, the question of the appropriate measure of risk at this site must be resolved prior to certification.

Q. There is a 21E remediation currently taking place at the site. Is that correct?

A. Yes. And for those of you not steeped in Massachusetts nomenclature, 21E refers to the Massachusetts General Laws Chapter 21E and the Massachusetts Contingency Plan, the implementing regulations for c. 21E. This is the state program that is analogous to the Federal Superfund program, although broader in scope. The 21E program encompasses both oil and hazardous materials.

The 21E program is also notable in another respect. It is a privatized program implemented primarily through a system of Licensed Site Professionals (LSPs). There is a licensing program, as well as a professional oversight board, by which any environmental professional wishing to oversee or implement a 21E remediation must receive credentials in the form of passing a licensing examination and meeting ongoing professional development requirements. Once receiving a license as an LSP, discrete actions effectuating the assessment and cleanup of a 21E disposal site are developed and implemented and are formally attested to, through the use of signed and sealed LSP Opinions which are submitted to and audited by the MADEP. The work of any LSP is held to certain standards, overseen by MADEP and the LSP Board, and any LSP who renders an opinion on any aspect of a 21E action must formally attest to the professional judgment, truth, and integrity of that Opinion.

This is an important point to understand. The FEIS states that the re-use of the dredged material upland and the risk characterizations employed were evaluated by Weaver's Cove Energy's LSP, but there is no LSP of Record or LSP Opinion attesting to these evaluations (FEIS at 4-42). The LSP of record, employed by

Shell Oil, the entity responsible for the cleanup of the disposal site, has repeatedly taken issue with the positions proffered by Weaver's Cove on the 21E remediation, the disposal of the dredged material on site, and the risk characterizations performed.

Q. Could you tell us about the remediation that is taking place at the site?

A. Yes, I can. Shell Oil Products US (Shell) is, under the direction and management of the LSP of Record, Michael Bingham, operating a groundwater and light non-aqueous phase liquid (LNAPL) recovery system at the site, and has been since 1992. The system uses up to twelve product recovery pumps at once, as well as six recovery wells. The groundwater is pumped at approximately 30 gallons per minute, is treated to remove the LNAPL through oil and water separation and activated carbon treatment, and is then discharged to the Taunton River in accordance with the requirements of an EPA NPDES permit held by Shell. The recovery wells are operated in order to prevent the migration of LNAPL to the Taunton River as well as to recover source contamination from the groundwater. To date, over 1,150,000 gallons of LNAPL have been recovered. The disposal site is currently in "Remedy Operation Status," meaning that the recovery system will be ultimately effective in remediating the LNAPL to a level that presents no significant risk to human health or the environment under current site conditions, but will require several more years to achieve a condition of no significant risk. In order to alter that approved remedy, at a minimum, a change would need to be approved by the MADEP authorizing the use of what, at this juncture, appears to

be a cap created from the dredged material, as well as possible alterations in the ongoing LNAPL recovery system. MADEP would have to determine whether these changes in the existing site conditions and in the treatment system would impair the effectiveness of the treatment system in place.

Q. Will the disposal of dredged material on site – up to somewhat over 3 million cubic yards of dredging spoils – affect the ongoing remediation?

A. Disposal of any large quantity of dredged material – whether it be 3.1 million cubic yards or the 2.6 million cubic yards estimated by Weaver's Cove could have a significant impact on the ongoing remediation. At this time, however, it is not entirely clear what that impact will be. This is because there is no firm set of alternative plans that could be evaluated. Weaver's Cove speaks in vague, one might even say vacuous, terms about what they would do to protect the integrity of the remediation, but there is no detail and no basis for evaluation is provided for the Commission, for the MADEP, at least at time of the issuance of the FEIS, or for the public.

Q. You have expressed concerns about the procedure employed by the Commission in its consideration of the question of whether the disposal of the dredged material on site can be done consistent with the ongoing remediation being conducted on site under Chapter 21E and if so how, is that correct?

A. Yes. The FEIS issued by the Commission does not include some of the most basic information required to allow the public to examine what the impacts of the

project will be and to comment on those impacts. With respect to the 21E issue, it postpones the gathering and submission of critically important information until construction is imminent, *following* the issuance of a FERC Certificate (FEIS at 5-23). This is illustrated by Recommendation 18 in the FEIS, which provides that the project file documentation with the FERC *prior to construction* and *following FERC authorization*, that placement of the dredged material is consistent with the Massachusetts Contingency Plan. This determination is not a construction detail or a remediation waste management issue. It is a threshold question concerning project and site suitability. Whether the planned disposal of the dredging spoils onsite can be done in a way that does not interfere with the remediation of the site – and indeed, whether any of the construction activities essential to the project can be carried out in a way that does not undercut the ongoing remediation – is an open question.

There is another very significant issue here that is not acknowledged and that will become the inevitable result should the MADEP determine that the disposal is *not* consistent with the remediation that is ongoing. The MADEP has stated that any material disposed on-site that is not an integral component of the remediation will be determined to be solid waste and will require local and state site-assignment. The failure to consider the 21E remediation questions alone is a significant issue but taken with the clear and known possibility that this could well be sanctioning the creation of an unlicensed solid waste management unit – a landfill by federal fiat – is inexcusable.

Q. Weaver's Cove seems to argue that it is only a matter of money, and that Weaver's Cove will bear whatever extra costs are involved in making the remediation consistent with the dredge disposal and other onsite activities involved with the project. Do you believe that it might be impossible to proceed with the project without interfering with the ongoing remediation?

A. I do not know, and neither does anyone else at this point. It is conceivable that with enough extra money and unqualified cooperation of Shell, the entity which bears responsibility in the long term for this cleanup, the remediation will be able to go forward at the same time that the project goes forward, but it is also conceivable that going forward with the project will impair the conduct of the remediation in ways that cannot be overcome. Ensuring the continued protection of human health and the environment from the contamination that is already present on the Weaver's Cove site is critically important, and the problem cannot be assumed away, or brushed aside until such time as when no one is looking, and when the public does not have a meaningful opportunity to comment. And it is not only a matter of the public's opportunity to comment; fully as important, the public's comments must come at a time when the Commission is prepared to hear and fully consider what the public has to say. The Commission cannot fulfill its obligation to determine whether the project is consistent with the public interest without fully considering the impact of the project on the ongoing remediation at the site.

Q. Why should this concern us? If the Commission conditions approval of construction on Weaver's Cove's agreement that it abide by a plan agreed upon by the MADEP, Weaver's Cove, and by Shell (the party conducting the current remediation), would the public's interests be protected?

A. Maybe – but maybe not. But issuing the section 3 authorization for the Weaver's Cove project before there is any such plan clearly does two things. First, it effectively deprives the public of the opportunity to comment on the plan as part of the NEPA process. Since the impact on the ongoing remediation raises significant human health and environmental questions, it is important for the public to have an opportunity to comment on the adequacy of the putative future plan to protect human health and the environment. Second, going forward with a section 3 authorization before there is any such plan for how to deal with the ongoing remediation at the site deprives the Commission itself of essential information on the impacts of the proposed action. The Commission cannot escape its responsibility to fully consider the environmental effects of the proposed action by "assuming away" the impacts.

Q. What do you mean "'assuming away the impacts?"

A. I mean that the Commission cannot, as it seems prepared to do, simply assume that the putative future plan for integrating the construction of the Weaver's Cove project with the ongoing remediation on the site will solve all the human health and environmental issues associated with the ongoing remediation. Few things in this world are perfect, and right now there is no basis for believing that any such

future plan would be an exception to this general rule. How then can the Commission evaluate how the proposed action stacks up against possible alternatives? How can the Commission weigh the risks of the proposed action?

Q. Do you mean that you do not trust the Massachusetts DEP to do its job?

A. That is not at all what I mean. The Massachusetts DEP will do as good a job as it can to minimize the risks to human health and the environment, but its task will be to attempt to minimize risks from a construction project over which it will not have clear control or any independent means to alter. It will have to perform a tightrope act in order to attempt to protect its authority from those eager to attempt to confine its jurisdiction in favor of federal authority to the maximum extent possible, while doing what it can to protect human health and the environment. What I fear is that it is this Commission that will fail to do its job of ensuring that the project will not be inconsistent with the public interest and, in so abrogating that responsibility, it will impair the ability of other such entities such as the MADEP to do their job of protecting human health and the environment.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Weaver's Cove Energy, L.L.C. and	)	Docket Nos. CP04-36-000, CP04-41-000,
Mill River Pipeline, L.L. C.	)	CP04-42-000, and CP04-43-000

DECLARATION OF WITNESS

I, Carol R. Wasserman, declare under penalty of perjury that the statements contained in the Direct Testimony of Carol R. Wasserman on behalf of the City of Fall River and the Attorney General of the Commonwealth of Massachusetts in this proceeding are true and correct to the best of my knowledge, information, and belief.

Executed on this 8th day of June, 2005.

Carol R. Wasserman